

CLAIMS

What is claimed is:

- 1 1. A method for generating hair comprising:
 - 2 producing a plurality of hairs representative of a dry coat of hair; and
 - 3 modifying at least one area of hair to provide a visual effect, comprising
 - 4 for each area;
 - 5 identifying a hair of the plurality of hairs as a center hair.
 - 6 identifying an area size,
 - 7 indicating at least one area parameter,
 - 8 determining hairs of the plurality of hairs that are within the area
 - 9 as area hairs, the area located according to the center hair and the area
 - 10 size and
 - 11 orienting the area hairs according to at least one area parameter.
- 1 2. The method as set forth in claim 1, wherein the visual effect is selected
- 2 from the group comprising clumping of hairs and breaking of hair.
- 1 3. The method as set forth in claim 1, wherein the at least one area
- 2 parameter are selected from the group comprising clump-percent, clump-rate,
- 3 break-rate, break-percent and break-vector.
- 1 4. The method as set forth in claim 3, wherein the at least one clump
- 2 parameter comprises clump-percent, said step of orienting comprising
- 3 adjusting a tip of each clump hair to be closer to the tip of the clump center hair,
- 4 the amount of closeness corresponding to the clump-percent.
- 1 5. The method as set forth in claim 3, wherein the at least one clump
- 2 parameter comprises clump-rate, the step of adjusting comprising adjusting the

3 clump hair to be attracted to the center hair, the degree of attraction
4 corresponding to the clump-rate.

1 6. The method as set forth in claim 1, wherein the at least one area
2 parameter is dynamically varied to provide animated effects.

3 7. The method as set forth in claim 6, wherein the animated effect
4 comprises simulating water hitting hairs and making the hairs increasingly wet.

1 8. The method as set forth in claim 1, wherein the visual effect is breaking,
2 said center hair comprising a break line hair that lies approximately on a fur
3 track.

5 9. The method as set forth in claim 8, wherein one-sided breaking is
performed, said step of adjusting comprises reorienting hairs away from a
corresponding break line hair.

1 10. The method as set forth in claim 8, wherein symmetric breaking is
2 performed, said step of adjusting comprising reorienting hairs with respect to a
3 corresponding break line hair.

1 11. A method for generating hairs on a surface comprising:
2 defining surface patches on the surface area;
3 placing control hairs on each surface patch;
4 indicating a global density value for the hairs;
5 defining local points which define the area of the surface to be processed;
6 approximating sub-area defined by polygons;
7 averaging a number of hairs per square unit area across sub-areas;
8 determining a total number of hairs per unit area; and

9 placing hairs in the sub-areas according to the total number of hairs per
10 unit area.